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[Mr. LYNCH, Chairman.]

REPORT

OF THE

COMMITTEE ON INTERNAL IMPROVEMENTS

ON THE CONDITION OF THE

CHESAPEAKE AND OHIO CANAL.

REPORT.

BY THE HOUSE OF DELEGATES

February 16, 1841.

Read and 666 copies ordered to be printed.

The Committee of Internal Improvement, to whom was referred, among other matters, the condition of the Chesapeake and Ohio Canal, ask leave to submit the subjoined report *in part*:

Your committee have been laboriously engaged in the investigation of the affairs and management of this company, from an early period of the session, and are still diligently employed in the prosecution of that enquiry, with a view to a full and satisfactory report upon a subject deeply interesting to the people of this State in the present embarrassed condition of the public finances, arising mainly from the failure of the President and Directors to fulfil the engagements of that company.

It would have been more agreeable to your committee to have embraced in this report, a full exhibition of the condition and prospects of all the works of Internal Improvement in which the State is interested, if they could have done so without neglecting other important duties, which they could not safely postpone. Entertaining apprehensions, however, that a further delay in presenting to the House the necessities of the Chesapeake and Ohio Canal, might seriously retard the action of other committees, they have been constrained to exhibit in this imperfect form, the state of that branch of Internal Improvement, which most requires the serious attention and fostering care of the Legislature. They have felt the necessity of this exposition at this time the more forcibly from the

reflection, that in the present embarrassed condition of the Treasury, occasioned principally by the failure of this company, since the election of its present conductors, to pay the interest upon the advances made by the State, the further prosecution of this gigantic work becomes inseparably connected with the finances of the country, and must command the grave attention of that committee, whose peculiar province it is to provide the ways and means to extricate us from the difficulties with which we are surrounded. Aware of the unsatisfactory exposures of the liabilities of this company which have been heretofore made, and knowing the distrust with which estimates of the cost of construction of this work to its completion have been received, your committee have most carefully extended their enquiries, and—with a fixed resolve to ascertain accurately, the true condition and future requirements of the canal—have arrived at conclusions on these interesting subjects, upon which they are well satisfied the Legislature may confidently rely. Independent of the liabilities of the company for work done, and evidences of its debts issued previous to the first day of January, 1841, the amount required for the completion of the canal to Cumberland, will be considerably less than two millions of dollars, and the time requisite somewhat more than two years. Your committee propose to exhibit in the first instance, the correctness of the estimates of cost of construction, and will then refer to the amount of the liabilities of the company at the period last mentioned.

That portion of the Chesapeake and Ohio Canal which is now unfinished and under construction, extends from dam No. 6 to Cumberland, and is fifty miles in length. By reference to the revised estimate of the chief engineer, made in December 1839, and which is the same in amount as that of December 1838, these fifty miles will cost \$4,440,657 From which deduct work done upon this line up to

the 1st of January 1841	2,614,757
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Leaving work unfinished on that day	\$1,825,900
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which is the sum required to complete the canal to Cumberland.

Your committee have critically investigated these estimates and expenditures, and can confidently state, that the estimate made by the former engineer, in December 1838, and confirmed by his successor, of \$4,440,657 as the full cost of construction of the fifty miles then unfinished, is more than the same work would cost at this time, in consequence of the fall since that

period in the price of provisions and labour. And they have every reason to believe, that the sum of \$2,614 757, actually expended on the work, has not been misapplied, and will reduce the cost of the completion of the canal to Cumberland, to the sum above mentioned of \$1,825,900. Your committee will ask your attention to the report of the chief engineer, made on the 31st of December 1840, on this subject.

He says, "my predecessor, both in his revised estimate of December 1838, and in that again revised in December 1839, states the probable aggregate cost of the 50 miles of canal al-

luded to, at \$4,440,657

From which deduct work done, January 1st, 1841, 2,614.757

And by that estimate there will be required to com-

plete the canal, an expenditure of \$1,825,900"

He adds "my personal knowledge of the exact state of the un-finished line, together with the progress already made in the estimate I shall hereafter present, justifies me in the confident expectation, that by dispensing with some works not absolutely necessary, by building the remaining locks of rubble stone masonry, by modifying the construction of some other works, and by the probable reduced rates at which with present pros-psects the remaining work could now be let, an economical and judicious outlay upon the works, of a sum not exceeding \$1,-600,000 more, would enable you within two or two and a half years, to open the navigation of the canal from the Cumberland dam throughout the fifty miles now unfinished, and thereby to complete the long anticipated continuous navigation, from the county seat of Allegany to tide water, within the District of Columbia."

Your committee will here observe, that these estimates have been made with great care, and have been repeatedly and anxiously revised, and approved and confirmed, as well by the former as by the present chief engineer, each of whom has commanded the confidence of the boards from which they have respectively received their appointments.

This great work having at length approached so nearly its final completion, those officers have availed themselves of the experience which continuous employment upon the line has afforded them, to prepare these estimates with unusual precision and accuracy. It will be observed also, that the whole of this line has been for some time open and under their immediate su-pervision, so that they have had every opportunity of surver-

ng every point, and calculating closely the cost of construction. Of the fifty miles yet unfinished, nearly thirty miles in all have been completed, and about three fifths of the cost of construction already paid, leaving detached sections of work yet to be done, of about twenty miles, and two fifths of the expense originally estimated to be incurred. Your committee will also state, that the work done is extended along the whole line of fifty miles, from the dam at the termination of the canal in Cumberland, to the dam No. 6, about twenty miles below the tunnel. As convincing evidence of the sufficiency of the estimate of \$4,440,657, we feel justified in stating from the reports before us, that the several sections and masonry, already completed, have cost *within* the estimate referred to: and there is every reason to believe that the remainder of the work will, in like manner, fall short of that estimate. It will be seen by the following extract from the last report of the chief engineer, that much of the heaviest work, which would be most likely to exceed the estimated prices, has been already completed.

"All the heavy river and sidehill sections, are now either finished, or so far forward, that a few months will suffice for their completion; they are, in point of fact, much farther advanced at this time, than the light bottom land sections heretofore left untouched. It is the masonry and the earthworks, dependant upon its execution, which will detain the opening of the navigation. Indeed, with the exception of

1. The 24 feet of lockage at Old Town.
2. The aqueduct No. 10, and its dependencies.
3. The tunnel, and its arch and tow-path.
4. The 40 feet of lockage in Athy's Hollow,

there is no work of any kind remaining to be done upon the line, which needs, necessarily, more than eighteen months time to finish, and the $10\frac{1}{4}$ miles next below Cumberland, can, as I have before stated, be opened in less than one year. Although I have declared, and now repeat, that at the *usual rate of working*, thirty months would be required to finish these four jobs, and the dependent earthworks, yet if the company were possessed of ample ready means, I should not despair, by letting to the contractor of each, all the adjacent earthworks necessary to be done in connection, and by vigorously directing a powerful force upon all these backward contracts, of pushing them through within the space of *two years* from the time of

contracting with experienced and responsible men, for the completion of those not now let, and also of their dependent work." Thus it appears, that for the completion of the canal to Cumberland within *two years*, there will be required, exclusive of the liabilities of the company, from \$1,600,000 to 1,800,000:

Your committee will now proceed to exhibit as accurately as they can, the liabilities of the Chesapeake and Ohio Canal Company. In the Report of the President of that Board, made in obedience to an order of this House, he states that, in addition to the amount required to finish the canal, the company will need \$700,000 to redeem evidences of its debts issued, and to pay for work done, if the State Bonds unsold command their *probable* value. "In this statement no estimate is made for the payment of interest to accrue *hereafter* on the \$2,000,-000 loan, or on the bonds issued under the acts of the General Assembly of Maryland, chs. 386 and 396, passed at December session 1838, or for the repayment to the State of the interest advanced to the canal company on the last named bonds during the past year."

The principal portion of the debt of the canal, independent of its defalcation for interest to the State, is for the issue of scrip since the month of July, 1840, amounting to \$453,496 92, without any basis, and for the redemption of which, the company has made no efficient provision.

Since the statement made to the legislature by the President in January last, there have been issued, as your committee are informed, upwards of \$70,000 more of scrip, making a total in addition to the former issue since June 1840, of more than \$523,000. Besides this amount, there had been previously issued since June 1839, and prior to June 1840 \$299,875, for the redemption of which about 90,675 pounds sterling of Maryland five per cent bonds were conveyed to trustees for its redemption. The trustees not having fully executed their trust it is not known what portion has been redeemed, though the fund deposited appears to be amply sufficient for that purpose.

Inclusive of the late issue of \$70,000, the estimated amount of the liabilities of the company, exclusive of interest due to the State on Bonds, as stated in the Report of the President at \$700,000 does not appear to be too large.

Your committee decline to express at this time any opinion of the policy or propriety of this heavy issue of scrip without any means of redemption, so soon after the legislature had re-

fused to make an appropriation for the further prosecution of the work. That enquiry belongs to another branch of their duties.

The liabilities of the company may therefore be safely estimated at a sum not exceeding \$700,000, and the amount required to complete the work on the canal to Cumberland will not exceed \$1,800,000, making in all the sum of \$2,500,000.

Your committee have declined to express any opinion as to the policy or propriety of uttering half a million of currency under the form of scrip, which, having been issued without any provision for its redemption, is now rapidly depreciating in the hands of suffering holders; they feel still less inclination to discuss the equitable claim of the owners upon the representatives of the people, or of the obligation of the legislature to redeem that for which they have received a consideration, when the paper was issued to prosecute a work on behalf of the State by its agents, after the State itself had refused to do so.

Whatever may have been the claim of the merchants and contractors upon the State, for the redemption of this enormous amount of baseless paper, it has been severely shaken by the Report of the President of that company, when, in justification of himself and his associates in the Board of Directors, for the issue, he intimates that it was ordered in pursuance of memorials from those merchants and contractors, and at their solicitation, and mainly for their convenience. This developement places them in a position decidedly the most unfavorable to the successful prosecution of their claim. Your committee, as such, will express no opinion on this subject, but leave the whole matter to the future action of this House.

If this scrip should be recognised as a debt of the State, \$2,-500,000 will be required to meet the liabilities and complete the canal; if the scrip should not be redeemed at this time, the sum of \$1,800,000 only will probably be requisite. It may be proper to suggest that the consequences of a failure to redeem this scrip promptly upon the credit and future resources of the Chesapeake and Ohio Canal Company, are worthy of serious consideration.

Finally, if it should be the pleasure of the legislature to appropriate a sum at this session sufficiently large to complete the canal, and thereby convert the whole of the dead capital thereon expended into productive investment, and thus protect the people of the State from continued taxation for the interest

on said expenditure, your committee, to guard against all contingencies, would respectfully suggest, that two millions of dollars would render the completion *certain* within the space of *two years*.

Any expression of opinion as to the impolicy of partial or insufficient appropriations is declined at present, as it will probably be a question of primary importance in that committee, whose duty it will be to devise the ways and means for the further prosecution of this work, if it be the will of this General Assembly to push it to completion.

Having thus briefly stated the extent of the liabilities, and the amount of appropriation required for the completion of this important branch of internal improvement, the attention of your committee will be directed to other subjects connected with it, upon which there is much error and misconception, and upon which information is anxiously desired.

It is an error to suppose, as is not unfrequently done, that the tolls are so regulated on the Chesapeake and Ohio Canal as to affect injuriously the Baltimore and Ohio Rail Road, by fixing the charges of carriage to convey flour and other produce at rates unreasonably low, at those points, and over those distances, where the rail road offers competition. By reference to the Rate of Tolls fixed by the company in July 1835, it will be seen that the only difference in charges is for the first fifteen miles of carriage, upon which there is a small advance beyond the usual rates, because there is the same trouble in making out a manifest, &c. for that distance as there would be for passing along the whole line. This charge is confined to no particular section of fifteen miles, but is exacted for the first of that number of miles which is travelled, whether commencing at Cumberland, midway, or at tide-water. Thus for instance, wheat, rye, barley, buckwheat, and Indian corn, are liable to a charge per ton of forty bushels of two cents per mile for the first fifteen miles, and one and a half cents per mile the remaining distance. So with flour per ton of ten and a half barrels, for the first 15 miles the charge is two cents, afterwards one and a half cents. Whatever may be thought of the present limitation of tolls by the charter, or of the regulation thereof within the charter by the board, there is nothing in such arrangement of which the exclusive friends of the rail road can complain.

In his late communication to the Executive, the President

of the Canal Company states, that the receipts for tolls have been sufficient to pay for the repairs required, and officers employed on that part of the canal now finished.

In the prosecution of their enquiries, your committee have been strongly impressed with the reflection, that whatever may have heretofore been the opinions prevailing in those sections of the State which appeared to have no immediate interest in the progress of this work, the time has now arrived when the active prosecution and speedy completion of the canal have become deeply interesting and equally important to all, in consequence of their inseparable connection with the prosperity of the whole State, and the restoration of its financial concerns.

It is now too late to speculate upon the wisdom or impolicy of the scheme of internal improvements projected by the legislature of this State in the session of 1835, or to dwell upon the causes which have compelled an abandonment of the work upon the Eastern Shore, and which have seriously embarrassed the further progress of those in the prosecution of which we are now engaged.

From the past we can gather nothing but the salutary lessons of experience; it is to the future that all our energies should be directed, with a view to remove the burdens with which the people must be oppressed, until by rendering the dead capital now invested speedily productive, we shall complete that work, the interest upon whose debt is the main cause of the necessity for resorting to taxation. There is no alternative but an entire abandonment of the work, which will entail upon our constituents a debt of more than seven millions, with the necessity of yearly additional revenue to the amount of about \$420,000, the interest on that debt, or a speedy prosecution of the canal until it shall have reached a point when we may confidently anticipate a plentiful return for the whole investment. When this shall have been effected, what is now debt will then be lucrative investment. In this view of our condition who can hesitate to advance, notwithstanding the embarrassments which surround us, when to halt is to ensure ruin?

When we reflect upon the circumstances under which this great scheme of internal improvements was projected, that our finances were in a most prosperous condition, and our credit exalted, we shall not be so prone to condemn the policy in which it originated. Improvements were then the spirit of the age. The wonderful success of the Erie Canal had given a re-

sistless impulse to other States. The great empires of New York and Pennsylvania were stretching forth their giant arms to embrace the West, when Maryland, whose geographical position gave her advantages which more than compensated for her feebleness, generously entered into this manly competition for the boundless products of the valley of the Ohio. Peculiarly blessed with natural advantages, and perhaps over estimating in her zeal the extent of her resources, she has never lost sight of the goal, but has pressed forward in the goodly race in the midst of difficulties and embarrassments, which she could not have anticipated, and which have never subdued her untiring spirit.

She has now approached a period when all her works promise to yield abundant fruit. Independent of the embarrassed condition of her finances the aspect of her works of internal improvement is by no means unfavorable. The prospects of the smaller works, of the Baltimore and Susquehanna Rail Road Company, and of the Susquehanna and Tide Water Canal Company afford no cause of uneasiness; while the two great works, inseparably blended with the financial and commercial prosperity of the State, the Baltimore and Ohio Rail Road and the Chesapeake and Ohio Canal, are rapidly approaching a point at Cumberland, when they will not only dissipate all apprehensions of being further burdensome to the State, but will yield rich dividends upon the State's investment. Indeed the one fifth of the receipts for passengers reserved by the State on the Washington Branch of this rail road in addition to the small per centage on the main stem, already yield a handsome dividend on our investment. It is confidently believed that under the present judicious management of the concerns of that company its work will be completed to Cumberland upon the subscription of the city of Baltimore, without throwing into the market in its present depressed condition any of the State securities. A faithful compliance with all its engagements to the State, by which this company has heretofore been characterised, together with a fair per centage upon the State's investment in this road may be safely expected.

In the course of two years it is believed the Baltimore and Ohio Rail Road will have been completed to Cumberland, when it will be eminently profitable to its stockholders, and where with all its resources husbanded, it may safely fold its arms

and await that aid from other States, which it will be their interest to extend before it advances further.

The Chesapeake and Ohio Canal then is the only work which occasions much solicitude. By the exhibit which has already been made, it appears that, independent of its liabilities for scrip issued and unredeemed, less than two millions of dollars is required to complete it to Cumberland. About twenty miles of construction only remains to be finished to carry it to that point, and open a continuous line of navigation to tide water for all the mineral wealth embosomed in the mountains of Allegany. It belongs to another province of the duties of your committee to explain the causes which have induced the present embarrassments of this company, the ruinous sacrifices of the State securities entrusted to its charge, the depression of our credit at home and abroad, and that failure to comply with its engagements, which is the fruitful source of all the evils which surround our financial condition, and render a burthensome taxation of the people the only resource until its completion.

The only benefit to be derived from this investigation will be to hold to a severe responsibility those who may have merited censure, and by an exposure of the causes which have embarrassed and retarded this great work, ascertain the safeguards necessary to secure its speedy and judicious prosecution to completion.

It would be idle to waste time in regrets for the past; it becomes us as legislators to guard the future. Upwards of seven millions have already been expended upon this work, and as it never could have been expected, that it would yield any return to the stockholders until it should be completed to Cumberland, four hundred and twenty thousand dollars must be annually raised until it is finished. Those seven millions being wholly unproductive, the single question remains, **WILL THE CANAL WHEN COMPLETED, BE WORTH THE TWO MILLIONS WHICH ARE REQUIRED FOR THAT PURPOSE?** This will depend upon the revenue it will yield—and the amount of that revenue will depend:

1. Upon the extent of the supply of minerals.
2. Upon the capacity of the canal for transportation.
3. Upon the demand for the articles transported.

First, then, as to the supply of coal. There is a prevailing error industriously propagated in relation to the means and facil-

ties of the incorporated companies and other owners of the coal lands, to furnish at Cumberland a quantity of coal for transportation for several years after the completion of the canal to that point, to yield a satisfactory per centage upon the capital invested by the State. It has been said also, that until the Baltimore and Ohio Rail Road or the Chesapeake and Ohio Canal is projected beyond Cumberland in the direction of the mines, there are no available means of delivery. An inspection of the routes designated for each of these great works of internal improvement beyond Cumberland, will show that in their further progress, neither of them will advance more than three miles beyond that town in the direction of the coal fields. And, indeed, their further projection towards the mines, is not relied upon by their proprietors for the purpose of supply; for it will be found, that from nearly all the mines in England and in this country, there are rail roads constructed necessarily as the means of connection between the coal depositories and the navigation, ranging in length from ten to fifteen miles, which roads are almost invariably constructed by the mining companies.

By reference to the report of the State Geologist and to other safe sources of information, it will be found that the basin between the Dan and Savage mountains, in Allegany, in which the depositories of coal and iron are found, covers a surface of more than eighty-six thousand acres, capable of supplying to the canal, after allowing for waste, a tonnage of upwards of **FOUR THOUSAND MILLIONS OF COAL AND UPWARDS OF ONE THOUSAND MILLIONS OF TONS OF CRUDE IRON.** At one dollar per ton for transportation on the canal, this region would supply mineral enough to yield to the company one million of dollars a year for five thousand years. Over this region of almost boundless supply, there are established twelve incorporated companies, with a chartered capital of about seven millions of dollars, of which there has been actually invested or obtained for investment, nearly one million of money, more than one third of which has been actually expended in the construction of furnaces, the opening of drifts, building of houses and getting out coal and iron ore. To furnish some idea of the character and extent of the works, particularly at the northern end of the basin, reference is made to a letter of Mr. Weld, the engineer of the Mount Savage Works, on Jennings's Run, near Frostburg. "Since the commencement of operations in May last, up to the first of December, more than 2,500 tons of ore had been ta-

ken out, besides large quantities of coal, limestone and fire clay, and a sufficient length of levels driven in the ore beds to take out at least thirty thousand tons of ore.

With regard to the general progress of the works for the manufacture of iron, the following is the result of our labour. The stacks of two blast furnaces of the largest class, have been completed, and two engines rated at 80 horse-power each, but capable of being worked much higher, have been made and delivered by the West Point Foundry Association; the first being intended for the blast furnaces, and the second for the rolling mill and its appendages. The apparatus necessary for grinding, drying and burning fire brick to almost any extent, has been erected: likewise lime kilns, blacksmiths' and carpenters' shops, boarding houses, store and dwelling houses, for the accommodation of upwards of one hundred families, while many more are in progress of erection.

Workmen are now employed in building the engine house and foundry, to be completed, if possible, before the severe weather comes on. In the mean time, an engine of twenty horse-power has been completed in Baltimore, to blow the cupola, turn the lathes, &c.

"Our progress is such, that we can confidently expect to have both furnaces in blast in the course of a very few weeks."

The Union Company is at the southern end of the basin, bordering upon the North Branch of the Potomac and along the Savage. They have a charter for an improvement of the North Branch by slack water navigation, a distance of twenty-seven miles to Cumberland, by which, when completed, they will have a cheap and convenient communication with the canal.

The George's Creek coal and iron company, at Lonaconing, propose taking their coal on a rail road, to be constructed by them, terminating a little above Cumberland, in a basin they intend making on the North Branch, which will enable them to transport their inexhaustible stores of coal and iron to the great basin at Cumberland. But it is to the mines of coal and iron in the northern section of this great tract of mineral deposite, that we are to look for more immediate supplies.

In this section, the principal companies are the Mount Savage, of which notice has already been taken by reference to the letter of Mr. Weld, the New York and Boston Co., the Allegany Mining Company, and the Clifton Company on Jennings's Run, and the Maryland Mining Company on Braddock's Run, which

will connect with the canal by means of rail roads down those water courses to Wills' Creek, and thence down that creek to the canal at Cumberland. These companies, together with individual proprietors, cover with their property from one-fourth to one-third of the whole amount of coal discovered, and will be enabled to supply any amount of coal equal to a demand that does not exceed the capacity of the canal.

Your committee have already observed, that nearly every canal in England, and all in this country designed and used for the transportation of minerals, are connected with the mines by rail roads of not less length than those that will be required near Cumberland, which have almost invariably been constructed at the expense and for the convenience of the several mining companies respectively.

The nearest point to Cumberland of the great coal deposit of the northern section, over which these companies are spread, is about eight miles, and it is four miles and a half in width. Independent of the capital already invested by these associations and of the funds provided by them for the opening of the mines, there can be no doubt that their means will enable and their interest will prompt them to make the necessary arrangements by rail roads and other improvements, to deliver at Cumberland quantities of coal and iron equal to any demand there may be at the time of the completion of the canal to that point not exceeding its capacity, if by a full appropriation at this session of the Legislature, they shall receive satisfactory assurance, that the work will be finished in two years.

To enable these companies to transport their minerals to the canal, rail roads will be required, as on other canals, averaging in length from ten to twelve miles; which will enable them to overcome advantageously the descent from the mines to the canal at Cumberland. As a great portion of the ground is favorable, the construction of these roads will not cost those companies more than twelve thousand dollars per mile, when they undertake them.

Having unfolded the vast resources of the Allegany coal fields, and the facilities with which any demand not exceeding the capacity of the canal can be supplied upon its completion to Cumberland provided an appropriation sufficient for that purpose shall be made at this session, we arrive at the enquiry which we proposed to make in the second place into the capacity of this work for transportation.

2ndly.—THE CAPACITY OF THE CANAL FOR TRANSPORTATION

Upon this subject, your committee have sought information from the most approved sources, and have amassed a vast fund of information. Being restricted however to the limits of a partial report, made under the most unfavorable circumstances, and in the midst of oppressive engagements, they ask leave to refer to the report of the general committee of the stock-holders of the Chesapeake and Ohio Canal company, presented in the year 1839, which seems to have been prepared with great care and accuracy, for a comparative view of the capacities of the Erie and the Chesapeake and Ohio canals. It is a very great error to suppose that canals for the conveyance of other articles are more profitable than those for the transportation of minerals. On the contrary, coal canals both in England and in this country, have been pre-eminently profitable; while the Erie canal of the State of New York is almost the only canal known of its kind, which has yielded heavy profits. But this branch of the subject will be more fully examined within. We now quote from the report referred to: "What is the capacity of the Chesapeake and Ohio canal to transport the coal in the Allegany basin, and what amount of tolls may be anticipated to reimburse the large expenditures involved in its construction?— Upon this subject, the committee have spared no pains to acquire correct information, and a brief summary of the result will now be submitted.

"The subject naturally divides itself into two branches; the first relates to the capacity of the canal from the plan of construction which has been adopted, the second to the supply of water to pass the trade.

"1st. As to the capacity of the canal. Our canals of four feet depth, with locks fifteen feet wide and ninety feet long, it seems to be ascertained, that the most economical medium of navigation is a boat carrying fifty tons. The depth of the Chesapeake and Ohio canal being six feet, the dimensions of its locks being fifteen feet in width by one hundred in length, it is supposed that boats of eighty tons will be best adapted to its use. Much larger loads may be readily transported, but we have assumed that of eighty tons, as the most convenient and economical. The navigation on this canal, judging from actual experience and observation, will exceed, rather than fall short of three hundred days in the year. The longest season of navigation on the Erie canal for the fourteen years preceding 1837 inclusive, was

two hundred and sixty-nine days; the shortest during the same period was two hundred and sixteen days. In the year 1835, of 230 days navigation, 25,798 boats and rafts passed through one of its locks in the two directions. In 1836, of 216 days navigation, 25,516 boats, &c. passed. The average of these two years, would be equivalent to 34,516 boats, &c., for a year of navigation of 300 days. The largest number of boats, &c., which have passed on the Erie canal, during the same period of fourteen years, in any one month, was in October 1835, viz: 4,215, that is 136 per day, which is equivalent to 40,800 for a year of 300 days.

"The greatest number of boats which have passed in one day through a lock on the Erie canal, so far as we have any official statement on the subject, is 302. At this rate, the year of navigation of 300 days would give 90,600.

"The locks upon the Erie canal are single, as are at present those on the Chesapeake and Ohio canal. The latter however, have all been constructed with a view to a double lockage, when the exigencies of the company shall require it. The intelligent officers of the Erie canal, who have furnished the foregoing statements, concur in the opinion, that the double locks would increase the facilities to the extent of two thirds. The opinion is also distinctly expressed, that although under very favorable circumstances, 302 boats have passed in a single day, 250 may be taken as the number which may conveniently be passed.

"From these data, derived from long experience, we are led to these results:

*Double Locks. Single Locks.
($\frac{2}{3}$ increase)*

1. Boats, &c. which have actually passed in 1835, in 230 days as above,	25,798	42,996
2. Do. do. in 1836, in 216 days,	25,516	42,526
3. Assuming 300 days of navigation for the year, and the average of the two years above would be	34,516	57,526
4. Asssuming the same year of 300 days, and the rate of the greatest month's work would be	40,800	68,000
5. Do. do. do. assuming the rate of the greatest day's work as above, 302,	90,600	151,000
6. Do. do. do. assuming the rate, which it is represented, as above, may be		

safely estimated for a day's work, 250 75,000 125,000

"Estimating the beat load at eighty tons, the amount transportable, according to the foregoing table, No. 4, would be with single locks 3,264,000, and with double locks 5,240,000 tons. In like manner, estimating the load at eighty tons, and applying it to the sixth item in the foregoing table, the result would be with single locks six million, and with double locks ten million tons per annum.

According to the present tariff, the toll upon coal, which is the lowest article, amounts to one dollar per ton from Cumberland to Georgetown; and supposing *one half* of the tonnage in the last preceding statement to be descending coal, that there should be no ascending trade, and the boats always return empty, the amount of tolls upon the first of the above statements would amount to \$1,632,000 per annum with single locks, and \$2,620,000 with double locks. Applying the same ratio of calculation to the second estimate, and the result would be \$3,-000,000 with single, and \$5,000,000 with double lockage.—Each individual may judge for himself of the probability of the data upon which the foregoing estimates have been formed, and vary the result accordingly." To this comparative view of the capacities of the Chesapeake and Ohio, and Erie canals, exhibited with great force and clearness, your committee will add the further consideration, that while the amount of transportation upon the Erie canal, a large portion of which consists of the products of the soil, must necessarily vary with the scantiness or abundance of harvests, the transportation on the Chesapeake and Ohio canal can only be limited by the demand upon those inexhaustible fields of mineral deposit, which have attracted the attention of the whole commercial world. And it is mainly on account of the endless supply, ample for all demands, that canals which are connected with mines of coal, both in Europe and America, have yielded such ample returns for the capital invested.

By reference to the principal coal canals in England, we will be enabled to form some idea of the productive character of such investments. "Coal canals," says a writer who borrows largely from an approved compilation of statistics upon this interesting subject, "coal canals have been invariably profitable in all countries, often exceeding in tolls the most sanguine expectations of the friends of the Chesapeake and Ohio canal. In Great Britain, the profits on coal canals have varied from 7

to 77 per cent, per annum, (in reference to 6 per interest on the original investment,) as appears by the following statement, prepared in October 1833.

	<i>Share.</i>	<i>Selling price.</i>	<i>Dividend.</i>
Coventry Canal,	£100	600	66
Forth and Clyde,	400	545	8
Loughborough,	143	1820	76
Neath,	108	290	16
Oxford	100	595	36
Stratford and Worcester,	140	640	26
Stroudwater,	150	500	20
Trent and Mersey	50	640	77
Grand Junction,	225	245	7
Leeds and Liverpool,	100	470	23

besides the Erewash canal, and many others, mostly employed in the transportation of coal, some of them 130 miles long, and having one third more lockage than occurs in the Chesapeake and Ohio canal, from tide water to Cumberland. And if we direct our attention to the coal canals in this country, we shall find them also, yielding large dividends."

The Lehigh and Schuylkill, like the Chesapeake and Ohio, are coal canals, not running immediately to the mines, but connected with them by eight or ten Rail Roads, constructed by the proprietors, averaging from eight to ten miles in length, which is, as we have already seen, the length of the Rail Roads required from our canal when completed, to the Cumberland and Frostburg deposits. The Rail Roads connected with the Schuylkill canal, transported as follows, in 1837

Mount Carbon	Rail Road,	Tons 126,046
Schuylkill Valley	" "	68,875
Mill Creek	" "	70,000
West Branch	" "	183,250
Little Schuylkill	" " and by other means	93,015
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Total tons,		541,186

Upon the Schuylkill Canal, in 1825, when it reached the coal regions, after encountering the greatest difficulties and discouragement, its tonnage amounted to only 6,500 tons;—yet, after the mines were operated, and rail roads constructed to transport the coal to the canal, the tonnage increased in a few years to 726,730 tons, and the tolls to \$604,189 57—and the stock rose from the lowest depression to 160 per cent. above par. And these enormous receipts are the proceeds of toll upon a

canal, the construction of which, only cost a little upwards of three and a half millions of dollars. The Schuylkill Canal is one hundred and eight, the Chesapeake and Ohio Canal is about one hundred and eighty miles in length; the former is only thirty-six feet wide by four feet deep—the latter has a width of fifty-four and a depth of six feet; the first named, is navigated by boats of fifty tons burthen, and the last mentioned by boats of eighty tons; and they have about the same lockage: in fact, in capacity and cost of delivery, these canals are about equal, that with double and this with its single locks. And yet, the tolls received upon the Schuylkill Canal, would pay to the State of Maryland upon its whole investment in the Chesapeake and Ohio Canal when completed to Cumberland, a dividend of six per cent. When to these facts are superadded the superior value of Allegany coal, and the enlargement of capacity, which double lockage would give to our canal, we may form some idea of its future profits.

Thus, by a comparison of the Chesapeake and Ohio with other canals, both in England and in this country, with a view to estimate correctly its capacity, we have at the same time been enabled to calculate, with some certainty, the amount of revenue it will yield.

Your committee have said, that in our present condition, the only question left for consideration was, whether the canal, when finished, would be worth to the State of Maryland, what it would cost to complete the remaining twenty miles. The solution of this question, they stated, would depend upon the revenue it would yield when constructed, and this again would depend, 1st. upon the supply of minerals—2d. upon the capacity of the canal for transportation,—and 3rd. upon the demand for the articles transported. Having clearly ascertained, that the basin of minerals in Allegany is sufficient to supply the world for centuries to come, and that the capacity of the canal is abundantly ample to yield immense returns for the investment of the State; the third proposition remains as to the demand for the mineral product.

3rdly. THE DEMAND FOR THE COAL will depend mainly, 1st. upon its quality and aptitude for fuel, steam navigation and mechanical purposes generally—and 2ndly. upon the price for which it can be delivered. In relation to the price of coal at market, it will be sufficient to state, that the tol! from Cumberland to tide water being a little less than one dollar per ton,

it can be delivered in the District of Columbia for from \$3 50 to \$4 per ton, or from $12\frac{1}{2}$ to $14\frac{1}{2}$ cents per bushel, and nett a handsome profit to the miners, after deducting all expenses incurred. It can be delivered in New York at something less than anthracite will cost in the same market: it will thus be enabled to compete with the Pennsylvania coals in New York, where its superior quality and fitness for domestic and manufacturing purposes are fully appreciated. As to aptitude for fuel, manufactures and steam navigation, its analysis, yielding 77 per cent. of carbon and 18 per cent. of bitumen, together with its entire freedom from sulphur, proves it to be equal, if not superior to any in the world. And the practical result of comparative experiments have established its character. Captain Perry of the U. S. Navy, after subjecting it to critical tests, has declared it to be superior to the English coals. "As an agent for the generation of steam, it has been found much more effective," says one who has examined it with the care of a man of science, "than the ordinary English coal imported into this country, and of course infinitely more than the anthracite, the use of which, it is presumed, it will almost entirely supersede. Lieutenant William F. Lynch, of the U. S. Navy, in a letter to the Hon. Wm. Cost Johnson, published in a report to Congress, says: 'That *one* ton of Cumberland coal is in mechanical effect, equal to *two* tons of anthracite.' Mr. Brien, the proprietor of the Antietam Iron Works, says: 'We have made a fair experiment of this coal, compared with the Richmond, and find it to be a much superior article. *One* bushel of Cumberland coal is worth *two* of Richmond, or any other we have used.' It is supposed to be at least twice as efficacious for the same purpose of generating steam as pine wood, and consequently will be preferred in the navigation of our own waters by steamboats, or in the transportation over the rail roads by locomotive engines. The gases obtained from it for illuminating purposes, have been found to be purer and more brilliant than from other coals; and as it also furnishes a larger quantity of coke, its use, in this respect, will be deemed more profitable. The chemical composition of this coal has been so frequently given, that it is useless to repeat it. It may be sufficient to state, that an average of all the analyses made by different chemists, shows it to contain about ninety-three per cent. of combustible matter, with not more than five per cent. of earthy matters, and in the main vein no sulphur."

The superior quality of this coal being thus clearly established, as well as its peculiar fitness for fuel and manufactures, and for the generation of gases and steam; and it being ascertained that it can by means of the Chesapeake and Ohio Canal, be introduced into the market upon terms which will enable it to compete successfully with, if not supersede the anthracite; there remains but the single enquiry of the probable consumption for all these purposes, when arrangements shall have been made to furnish quantities equal to the demand. Let us first consider coal as *fuel*, estimating its average consumption, including manufactures. By reference to tables, constructed with great care, of the several articles supposed to be *necessary* for the consumption of a family, it will be found that fuel weighs above three times as much as all the other necessities of life, and as *tonnage* constitutes the *business* of navigation, those which furnish the *single article of fuel*, must be expected to yield more profit than those which transport *all the other productions combined*.

Assuming one ton of coal to be the average consumption for each soul, including manufactures, when the article becomes abundant, the following table will show the necessary consumption of each family in one year, of other articles combined, as well as of fuel alone:

Flour of all kinds,	-	-	-	-	-	1,825 lbs.
Meat,	-	-	-	-	-	1,095 "
Salt.	-	-	-	-	-	480 "
Groceries,	-	-	-	-	-	234 "
Clothing,	-	-	-	-	-	45 "
Iron,	-	-	-	-	-	60 "
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Total combined necessities,	-	-	-	-	-	3,739 lbs.

Fuel alone, at one ton per head, - - - 13,400 "

Thus showing that in weight, upon which the profits of navigation depend, fuel alone is upwards of three times as much as all other necessities combined. But is 28 bushels per head a fair estimate of consumption when the supply shall be abundant? Let our enquiries be directed to practical results and ascertained facts both in England and in this country. It should be kept steadily in view however, that past experience on this subject is confined, except the Pittsburg coal, to Anthracite or English coals, which are dearer than this coal, and mostly inferior for domestic uses, and for steam, gases, and

mechanics. The official account of coals sold in London in the year 1824 was 1,505,021 chaldrons, or 54,180,756 bushels. The population of London and its environs was then about 1,500,000, which divided into the number of bushels for 1824, would give 36 bushels to each inhabitant. Throughout the whole of England it is ascertained that the consumption of their coals exceeds one ton per annum to the inhabitant,—and in this country the same rate is found to hold good where coal has come into general use. In Pittsburg where there is a large demand for manufacturing purposes, and the supply of an inferior article of coal is abundant the average greatly exceeds one ton for every inhabitant. The consumption of anthracite in Philadelphia in 1820 was only a little upwards of 10,000 bushels,—in five years afterwards the amount was 795,000 bushels,—and in 1838 it had increased so as to give to the Schuylkill navigation a tonnage of 106,000 tons, equal to near 3,000,000 of bushels of anthracite, which is equivalent in bituminous coal to an average for every inhabitant as large as that in England.

Whenever therefore an article much superior in every respect to that now used is furnished at a lower price, it will not be unreasonable to assume one ton as the average consumption of each person where coal is the fuel generally used. The population of the United States within reach of tide water, and between that and the Atlantic, may be safely put down at not less than four millions, which at one ton per soul would give a consumption of four millions of tons. The Chesapeake and Ohio Canal is favorably situated to supply one half of the present demand which is about one million of tons; and when the demand shall have reached the maximum of four millions, it will be enabled from the superior advantages it possesses to furnish not less than one-third, which for the present population will be one million and one-third tons of coal per annum.

When the superior quality of the Cumberland coal is taken into consideration, together with its peculiar aptitude for all mechanical purposes, and the cheapness with which it can be furnished; and when we reflect upon the rapidity of increase in demand even for the anthracite, which is so very much inferior, and to the vastness of the new demand which this coal will create for all purpose of steam machinery and navigation both upon the ocean and upon our inland waters, we cannot

doubt that the demand will equal in a very short time the capacity of the canal even with double lockage.

Thus your committee have endeavored to establish the three propositions upon which the ability of the Chesapeake and Ohio Canal when finished to pay a satisfactory per centage upon the cost of its construction will depend:

1st. The sufficiency of the supply to meet the demand;

2ndly. The capacity of the canal to transport that supply;

And 3rdly. The prospect of a demand sufficient to yield fair profits.

It was the design of your committee to unfold the serious losses which would attend partial or insufficient appropriations of money generally to works of this kind, and to this work especially at a crisis in its affairs, when it is within twenty miles in distance, and less than two millions in funds of completion. But they will refer for information on this subject to the melancholy experience of the past, and for the increase of expenditure and delay, occasioned thereby, to the Twelfth Annual Report of the President and Directors to the Stockholders of this Company. It is proper to state however, that unless an appropriation be made at this session sufficient to complete the canal, it is not to be expected that the several mining companies in the coal basin will make further investments and expenditures while its completion is matter of uncertainty.

Under partial appropriations its past history will be its future destiny, and it will drag its slow length along under a failing credit, and increased expense of construction, until the hopes of your people will sicken, the enterprise of capitalists will be subdued, and the resources and energies of the State exhausted. The unusual length of this report alone restrains your committee from enforcing this point with much solicitude, as one of vital importance to the future prosecution of the work, to the best interests of the State, and to the speedy relief of the people from that burthen of taxation, which the failure of this company to meet its engagements to the Treasury has entailed upon our constituents, without hope of abatement or relief until this canal is finished.

Your committee would respectfully represent, that in contemplating the whole system of her internal improvements, without regard to the embarrassed condition of her finances, she is now passing through the crisis of her fortunes. If her resources and credit corresponded with the magnitude of her

interests, the pressing expediency of prosecuting to completion the Chesapeake and Ohio Canal would not be questioned for a moment, when so small an additional expenditure is necessary to finish the twenty miles of work remaining undone within so limited a time as two years. By stern perseverance in the prosecution of her system of internal improvements, and by a steady adherence to a wise policy, the great State of New York has perfected an enterprise of stupendous magnitude, and has surmounted difficulties of appalling force. She has broken down the barriers which nature had interposed between the waters of the great lakes and the Atlantic, and "by increasing her population and her power, and adding countless millions to the wealth of her people and emporium, she has created a revenue derived from her canal sufficient to discharge the ordinary expenses of her government, and has dearly but richly won the proud title of the Empire State. And why shall Maryland hesitate by one more effort to realise similar advantages by the completion of the Chesapeake and Ohio Canal, proved by the clearest testimony to be decidedly superior, being a much shorter, more direct, and central communication from the Atlantic to the West, and possessing in the coal trade, a perpetual and inexhaustible source of profit in addition to all those enjoyed on the New York canal?" There is a source of wealth and prosperity connected with abundant supplies of coal infinitely transcending the mere profits derived from the transportation of minerals, upon which your committee would willingly dwell if the limits of their report would permit. Whether we direct our attention to the coal regions and markets of Britain, or of this country, to Wales or to Pennsylvania, to Sheffield or to Pittsburg, the vast accession to active capital, the rapid increase of arts, trades, population, enterprise, and manufactures, and of all the great agents of domestic comfort, public prosperity, and national resources, all these weighty considerations present inducements well worthy of the deliberate reflection of the representatives of a free people. And as there is no unmixed evil, the very derangement of our finances which now engrosses our attention, has sprung from a cause which makes the Chesapeake and Ohio Canal no longer the object of sectional jealousy, but an enterprise of vital consequence to every county of the State, the speedy and successful consummation of which is equally important to all. To levy a tax upon the people and not remove the cause of that taxation—to postpone

the completion of this canal, when every year of postponement subjects our constituency to a farther tax for the interest of that debt; would, in the estimation of your committee, be an unwise and fatal policy.

In the views which have been taken of our system of internal improvements, the interests of the city of Baltimore, our commercial emporium, have not been overlooked. The past legislation of the State will abundantly show, the bountiful providence of the legislature, in relation to those improvements, in which that great and growing city has felt an interest. The Susquehanna improvements, the Potomac interests, and the Baltimore and Ohio Rail Road, have all been carefully fostered. In making appropriations heretofore, the two improvements of the rail road and canal, have been associated; and although the former will traverse to a considerable extent, a foreign territory, and the latter terminates for the present in a neighboring district; the policy which would separate the two, as objects of public solicitude and legislative protection, would be unsafe.

The ultimate termination of the Chesapeake and Ohio canal is the city of Baltimore. And if your committee were not satisfied, that the right of the Maryland Canal company to continue the canal through the district to Baltimore was unquestionable, and that it would be speedily done after the completion of the work to Cumberland, they would not feel that deep solicitude in its rapid projection, which they have been impelled to express to the legislature.

The conclusions to which your committee have arrived, are:

That until the Chesapeake and Ohio canal is completed to Cumberland, this people must be oppressed with grievous burdens;

That a failure to appropriate at this session, will postpone its completion for one year, and render taxation to the amount of the interest on its cost, necessary for another year;

That a partial appropriation of a sum less than enough to complete it, would delay its completion at least one year, and multiply the cost of construction one third;

That the sum required to meet all contingencies and to complete the canal, if appropriated at this session would certainly complete in two years;

That when completed, it would speedily pay heavy profits upon the whole of the investment;

And finally, that in its completion reposes the only hope of paying off our heavy debt, and relieving the burdens of

the people, which must continue and accumulate annually until it reaches Cumberland. There is no safe alternative between a vigorous prosecution of this work to Cumberland, and a virtual abandonment. Notwithstanding the embarrassment of our finances, and the derangement of the currency and business of the whole nation, your committee cannot persuade themselves that any portion of our people desire its abandonment. To abandon this great work, when with an expenditure of more than seven millions, it is upon the verge of perfection; to leave crumbling into ruins this gigantic structure, with all its magnificent aqueducts and architecture, instead of freighting its waters with the treasures which its mountains open to disclose; would be to imitate those who have placed in the midst of solitude and sand those useless fabrics, the pyramids, rather than those wiser men, who, with their lengthened and expensive canals, extended the fertilizing influences of the Nile, scattering plenteous blessings in their vicinage to the surrounding lands.

Let us imitate the perseverance of our fathers; and instead of leaving stretched along our territory in one continuous line this abasing memorial of our sickleness and timidity,—let us rather by one generous effort perfect it, and exhibit to the world, and to our children, a monument of the sublime and indomitable energies of Maryland, as enduring as the mountains in whose bosom her mineral treasures are unsealed, a genial fountain of nourishment and life.

EDWARD A. LYNCH, Chairman.



